

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

McElrath et al.

Serial No.: Not assigned,

Divisional of 09/071,105

Filed: Herewith

For: Composition for Tire
Sidewalls and Other Rubber
Construction

Authorized Officer:

Not Assigned

Group Art Unit No.:

Not Assigned

Attorney Docket No.: 97B029/5

Baytown, Texas

January 7, 2002

Box Non-Fee Amendment

Commissioner for Patents

Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Applicants respectfully request entry of the following amendments pursuant to the Divisional Application filed herewith.

IN THE SPECIFICATION

After the title on page one, please delete the phrase "This is based on Provisional Applications USSN 60/045,632 filed May 5, 1997, and USSN 60/062,591 filed October 20, 1997" and insert the phrase --The present application is a Divisional Application of U.S.S.N. 09/071,105, filed on May 1, 1998, which claims priority to Provisional Applications U.S.S.N. 60/045,632 filed May 5, 1997, and U.S.S.N. 60/062,591 filed October 20, 1997.--

A Substituted Sheet and marked-up copy are attached hereto.

IN THE CLAIMS

Cancel Claims 1-15. Enter new Claims 16-30:

16. A multi-layer tire sidewall comprising at least one outer layer and at least one inner layer, the outer layer comprising a blend of a rubber and a copolymer of an isoolefin, para-alkylstyrene and bromoalkylstyrene, wherein the amount of bromoalkylstyrene and the para-alkylstyrene in the copolymer are represented by the following formula:

$$X = [1.91 - (0.094 \times Y)] \pm 0.1$$

wherein "X" is mole percent bromoalkylstyrene and "Y" is the weight percent of para-alkylstyrene and has a value of from 9.5 to 20.

17. The tire sidewall in accordance with Claim 16, wherein the rubber is selected from natural rubber, styrene-butadiene rubber, butyl rubber, halobutyl rubber, polybutadiene rubber, polyisoprene rubber and combinations thereof.
18. The tire sidewall in accordance with Claim 16, wherein the rubber is present from 35 to 65 phr of the blend.
19. The tire sidewall in accordance with Claim 16, wherein the blend comprises one outer layer of the tire sidewall.
20. The tire sidewall in accordance with Claim 16, wherein the outer layer also comprises EPDM rubber.

21. The tire sidewall in accordance with Claim 20, wherein the EPDM rubber is present from 5 to 20 phr of the blend.
22. The tire sidewall in accordance with Claim 16, wherein the rubber is natural rubber.
23. The tire sidewall in accordance with Claim 22, wherein the copolymer and rubber are present in a ratio of from 0.28:1 by weight.
24. The tire sidewall in accordance with Claim 16, wherein the multi-layer tire sidewall also includes an at least one inner layer comprising a unsaturated rubber or blend of unsaturated rubbers.
25. The tire sidewall in accordance with Claim 24, wherein the unsaturated rubber is selected from natural rubber, butyl rubber, halobutyl rubber, styrene-butadiene rubber, polybutadiene rubber, or combinations thereof.
26. The tire sidewall in accordance with Claim 16, wherein the isoolefin is isobutylene and the bromoalkylstyrene is para-bromomethylstyrene.
27. The tire sidewall in accordance with Claim 16, wherein the para-alkylstyrene is para-methylstyrene.
28. The tire sidewall in accordance with Claim 19, wherein the outer layer also comprises a filler selected from carbon black and silica, and combinations thereof.
29. The tire sidewall in accordance with Claim 24, wherein the inner layer also comprises a filler selected from carbon black and silica, and combinations thereof.

30. The tire sidewall in accordance with Claim 16, wherein the copolymer is present from 35 to 65 phr of blend.

REMARKS

The present Divisional Application is filled to pursue claims that were restricted in the action of September 13, 1999 (paper 5). The original claims 1-15 are cancelled, and new claims 16- 20 are submitted. No new matter is introduced in these claims, and each finds support in at least the specification and/or an original claim as described below:

Claim 16 is supported by original Claim 12, and in the specification on pages 8-9, lines 26-30 and 1-5.

Claim 17 is supported by original Claim 5, and the specification on page 6, lines 15-18.

Claim 18 is supported by the specification on page 5, line 29.

Claim 19 is supported by original Claim 10, and in the specification on page 5-6.

Claims 20 and 21 is supported by the specification on pages 5-6, lines 30-31 and 1-4.

Claim 22 is supported in the specification on page 6, lines 5-9.

Claim 23 is supported in the specification on page 6, line 8.

Claim 24 is supported in by original Claims 10 and 11.

Claims 17 and 25 are supported by the specification on page 6, lines 20-23, and the inclusion of butyl rubber and halobutyl rubber is supported as follows: page 6, line 14-15 (unsaturated rubbers in the inner layer), cross reference of an "unsaturated rubber" to a "GPR" (general purpose rubber) on page 5, line 19, and the description of butyl rubber and halobutyl rubber on pages 7-8, lines 26-31 and 1-2. It is commonly known in the art that "GPR" rubbers include butyl rubber and halobutyl rubber. See, for example, POLYMER TECHNOLOGY DICTIONARY 171 (Tony Whelan ed., Chapman & Hall 1994) for the definition of "general purpose rubber", copy of which is attached. Also, see page 16, lines 10-13, wherein curing of the blends "for highly unsaturated or chlorobutyl rubbers" is discussed.

Further, as cited on page 5, lines 21-22, THE VANDERBILT RUBBER HANDBOOK, on page 605 (attached), specifically refers to chlorobutyl or bromobutyl as being part of a sidewall blend.

Claims 26 and 27 are based on original Claims 4 and 13.

Claims 28 and 29 are supported in the specification on page 16, lines 5-10.

And Claim 30 is supported by original Claim 2.

New Claim 16 is also based on allowed Claim 9 as amended in the original application. In view of the above it is submitted that the case is in condition for allowance. The applicant invites the Examiner to telephone the undersigned attorney if there are any other issues outstanding which have not been presented to the Examiner's satisfaction.

Respectfully submitted,

January 7/02
Date

Kevin M. Faulkner

Kevin M. Faulkner
Attorney for Applicants
Registration No. 45,427

ExxonMobil Chemical Company
Law Technology
P.O. Box 2149
Baytown, Texas 77522-2149
Phone: 281-834-2677
Fax: 281-834-2495

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